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(54) Name of the invention: Adhesive Tape Roll and its Manufacturing Method

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Patent Assignee: Mitsubishi Polymer Company

## **JP 60-245682**

*[ Note : Names, addresses, Company names and brand names are translated in the most common manner. Japanese Language does not have singular or plural words unless otherwise specified with numeral prefix or general form of plurality suffix. Translator's note.]*

### **Description of the invention**

#### **1. Name of the invention**

**Adhesive tape roll and its manufacturing method**

#### **2. Range of the claims of the invention**

(1) Adhesive tape roll where the leading paper that is adhered onto the edge of the adhesive tape roll that is wound on a core, is several millimeters ahead of the edge of the adhesive tape.

(2) Manufacturing method for the preparation of an adhesive tape roll, characterized by the fact that the leading paper, that is bent from the bending line C as the adhesive tape obtained by coating an adhesive agent on a substrate material is continually run, is glued on the adhesive agent coated surface along the width direction of the tape only at the B part that is before the bending, so that the bending part A that is in the direction after the bending is not in contact with the adhesive agent coated surface. And after that the adhesive tape is cut from the side of the tape substrate material at the position that is in the direction after, and that is at a distance that is several millimeters shorter than the bending length l from the above described bending line C to A, and it is rolled.

#### **3. Detailed explanation of the invention**

##### **[Technological sphere of application]**

The present invention is about an adhesive tape roll that has a leading paper that makes the process of taking out the edge of the adhesive tape easy. And it

is also about the manufacturing method for the preparation of this adhesive tape roll.

**[Previous technology]**

The adhesive tape rolls where an adhesive tape obtained by coating of an adhesive agent is wound on a core have been used widely in a variety of different types of applications. Regarding such adhesive tape rolls, with the goal of making the process of taking out the adhesive tape edge, usually on the appropriate tape edge a leading paper is glued.

However, in the case of the adhesive tape roll according to the previous technology, as it is shown according to the presented in Figures 6 ~ 7 side plane diagram and a partially enlarged diagram, because the leading paper 4 is covered by the adhesive tape edge the adhesive force of the adhesive tape is strong and because of that the withdrawing of the tape edge is difficult.

**[Goal of the present invention]**

The present invention is an invention that suggests an adhesive tape roll that has a leading paper glued that makes the process of the withdrawing of the adhesive tape edge easy. And also, it is an invention that suggests a manufacturing method according to which it is possible to effectively manufacture the above described rolls.

**[Structure of the present invention]**

The present invention is an invention where an adhesive tape roll whereby it is possible to solve the above described drawbacks according to the previous technology, and its manufacturing method, have been observed. And the requirements for this are according to the following here below:

(1) Adhesive tape roll where the leading paper that is adhered onto the edge of the adhesive tape roll that is wound on a core, is several millimeters ahead of the edge of the adhesive tape.

(2) Manufacturing method for the preparation of an adhesive tape roll, characterized by the fact that the leading paper, that is bent from the bending line C as the adhesive tape obtained by coating an adhesive agent on a substrate material is continually run, is glued on the adhesive agent coated surface along the width direction of the tape only at the B part that is before the bending, so that the bending part A that is in the direction after the bending is not in contact with the adhesive agent coated surface. And after that the adhesive tape is cut from the side of the tape substrate material at the position that is in the direction after, and that is at a distance that is several

millimeters shorter than the bending length  $l$  from the above described bending line C to A, and it is rolled.

Here below, the present invention will be described in more details by using figures.

Figure 1 represents a side plane diagram of the adhesive tape roll obtained according to the present invention. Figure 2 represents a partial enlarged diagram at its II part. Figure 3 represents a three-dimensional diagram of the state of the gluing of the leading paper, that is used according to the technological process of the manufacturing method of the present invention. Regarding Figure 4, it is a figure that represents a schematic sectional view diagram of one example of equipment used in the manufacturing method according to the present invention. Figure 5 represents a partial enlarged diagram at the V part illustrated in Figure 4.

Regarding the adhesive tape roll according to the present invention, as it is seen from Figure 2, the leading paper is ahead by a distance  $t$  from the edge 3 of the adhesive tape. Regarding this  $t$ , its length is freely determined, however, usually, it is a good option if the length of the part where the fingertips are pulling is in the range of 1 ~ 5 millimeters. By the fact that this leading paper is hanging out, the pulling of the tape edge part is made easier.

After that, a description will be given about the manufacturing method for the preparation of the above described adhesive tape roll and one example of the equipment used in it.

Regarding the adhesive tape 2, in Figure 3 and Figure 4, the structure is formed from the tape substrate material 6 and the adhesive agent coated surface 5, where on the above described substrate material the adhesive agent material is coated. And it is running continually in a direction that is indicated by the arrow S. As the called here adhesive tape 2, besides the material that is cut to a narrow width it is possible to use also a material with a large width. Regarding this adhesive tape 2, it is wound on the winding core, (not shown in the figure), however when it is close to the point where the winding becomes sufficient, the shown in Figure 4 leading paper adhering bar 10 is rotated in the L direction of the lower side. And the leading paper with a specific length and shape, that is placed at the above adhering bar 10, is adhered onto the adhesive agent coated surface of the adhesive tape 2.

Regarding the details of the above described leading paper adhering bar 10, they are shown in the partial enlarged sectional view diagram presented in Figure 5. According to Figure 5, the adhesive tape and the leading paper 4 with the same width are introduced along the guide plate 14, and they are affixed by the pressure plate 12 by the vacuum suction force that is generated

from the vacuum aperture 13, that is provided on the adhering bar 10. Regarding the affixed driving paper, it is cut to parts with a specified length by the cutter 8 and after that by the transfer of the pushing plate 11 in the direction indicated by the arrow, it is bent at the desired angle with the center being the bending line C that is bent at a bending angle of 15 degrees.

Regarding the bent leading paper, in the same as the pressing plate 12 is separated and it is adhered onto the leading paper adhering bar 10 only by the vacuum suction, together with the adhering bar 10 it is rotated and transferred to the lower side and at the desired position it is glued onto the adhesive agent coated surface of the adhesive tape 2.

According to the present invention, it is also a good option if other type of adhesion equipment, besides the above described equipment, is used.

Regarding the above described glued leading paper, as it is shown according to the three-dimensional diagram presented in Figure 3, it is necessary that it is glued at the adhesive agent coated surface 5 only at the part B that is before the bending in the running direction S, and the part A that is after the bending, is not in contact with the adhesive agent coated surface. The leading paper is glued and after that the tape cutter 9 is activated and it is cut at the adhesive tape cutting position, which is the position m that is only at a short distance of several millimeters from the above described length l where the bent occurs from the bending line C. Regarding the tape cutter 9, it is activated from the side 6 of the substrate material of the tape. After the cutting, the adhesive tape is wound and it is made into a roll and at this state it becomes a manufactured product or especially it is slit into a smaller width rolls. By that, the part A that is after the bending, is also adhered onto the adhesive agent coated surface of the tape.

#### **[Effect of the present invention]**

Regarding the adhesive tape that is obtained according to the present invention, it has the advantage point that the process of taking out the edge of the adhesive tape is easy. And also, regarding the manufacturing method according to the present invention, it is a method that has the advantage point that it is possible to obtain the above described roll by an effective adhesive tape manufacturing technological process.

#### **4. Simple explanation of the figures**

Figure 1 represents a side plane diagram of the adhesive tape roll obtained according to the present invention. Figure 2 represents a partial enlarged diagram at its II part. Figure 3 represents a three-dimensional diagram of the state of the gluing of the leading paper, that is used according to the technological process of the manufacturing method of the present invention.

Regarding Figure 4, it is a figure that represents a schematic sectional view diagram of one example of equipment used in the manufacturing method according to the present invention. Figure 5 represents a partial enlarged diagram at the V part illustrated in Figure 4. Figure 6 represents a side view of an adhesive tape roll obtained according to the previous technology and Figure 7 is a figure representing a partial enlarged diagram of its VII part.

A.....part after the bending  
B.....part before the bending  
C.....bending line  
l.....length of the bending at A

**Patent Assignee: Mitsubishi Resin Company**

*Translated by Albena Blagev (6-7946)*

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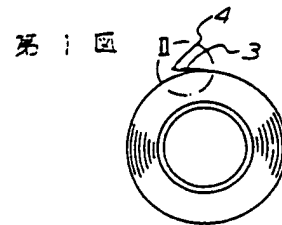
を粘着テープの製造工程で効率的に得ることができるという利点を有するものである。

#### 4 図面の簡単な説明

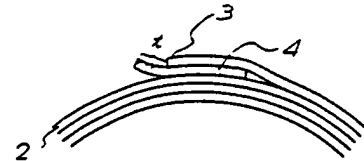
第1図は本発明の粘着テープ巻物の側面図、第2図はそのⅡにおける部分拡大図、第3図は本発明の製造方法における口取紙の貼着状態を示す斜視図、第4図は本発明の製造方法に用いる装置の一例を示す概略断面図、第5図は第4図のⅤにおける部分断面拡大図、第6図は従来の粘着テープ巻物の側面図、第7図はそのⅥにおける部分拡大図である。

- A …… 後方折り曲げ部  
B …… 前方折り曲げ部  
C …… 折り曲げ線  
ℓ …… Aにおける折り曲げ長さ

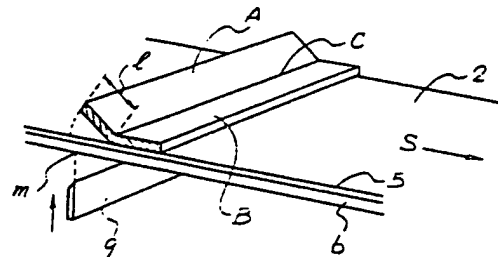
特許出願人 三菱樹脂株式会社  
代理人 弁理士 近 藤 久 美



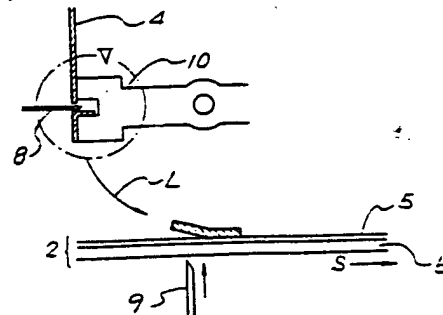
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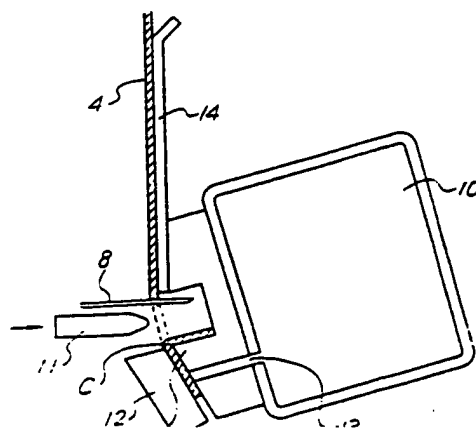
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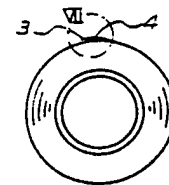
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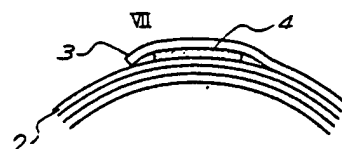
第5図



第6図



第7図



⑩ 日本国特許庁(JP)

⑪ 特許出願公開

⑫ 公開特許公報(A)

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審査請求 未請求 発明の数 2 (全3頁)

⑮ 発明の名称 粘着テープ巻物及びその製造方法

⑯ 特 願 昭59-101915

⑰ 出 願 昭59(1984)5月21日

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明 細 書

1 発 明 の 名 称

粘着テープ巻物及びその製造方法

2 特許請求の範囲

(1) 巻芯に巻取られた粘着テープ巻物の端部  
に貼着された口取紙が、粘着テープの端部から  
数ミリ程度はみ出してなる粘着テープ巻物。

(2) テープ基材に粘着剤を塗布した粘着テープ  
を連続的に走行させ、折り曲げ線Cから折り曲  
げられた口取紙をテープ走行方向の後方折り曲  
げ部Aが粘着剤塗布面と接触しないように、前  
方折り曲げ部Bのみで、粘着剤塗布面にテープ  
幅方向に沿って貼着した後、上記折り曲げ線C  
からAにおける折り曲げ長さ $\lambda$ よりも数ミリ程  
度短かい距離だけ後方の位置でテープ基材側か  
ら粘着テープを切断し、巻取ることと特徴とす  
る粘着テープ巻物の製造方法。

3 発明の詳細な説明

(産業上の利用分野)

本発明は、粘着テープ端部部の取出し作業が  
容易な口取紙を有する粘着テープ巻物及びその  
製造方法に関する。

(従来技術)

粘着剤が塗布された粘着テープ巻芯に巻取っ  
た粘着テープ巻物が各種分野で多用されている。  
このような粘着テープ巻物において、粘着テー  
プ端部部の取出し作業を容易にする目的で、当  
該端部部に口取紙を貼着することが通常なされ  
ている。

しかしながら、従来の粘着テープ巻物では、  
第6～7図の側面図及び部分拡大図に示すよう  
に、口取紙4が粘着テープ端部部で覆われてい  
るため、粘着テープの粘着力が強力なものでは、  
テープ端部部の取出しがやりずらかった。

(発明の目的)

本発明は、粘着テープ端部部の取出し作業が  
容易な口取紙を貼着した粘着テープ巻物及び当



該巻物を効率的に形成できる製造方法を提供するものである。

#### (発明の構成)

本発明は、上述した従来品の欠点を解消できる粘着テープの巻物及びその製造方法を見出したものであり、その要旨とするところは、

- (1) 巻芯に巻取られた粘着テープ巻物の端末部に貼着された口取紙が、粘着テープの端末から数ミリ程度はみ出してなる粘着テープ巻物。
- (2) テープ基材に粘着剤を塗布した粘着テープを連続的に走行させ、折り曲げ線Cから折り曲げられた口取紙をテープ走行方向の後方折り曲げ部Aが粘着剤塗布面と接触しないように、前方折り曲げ部Bのみで、粘着剤塗布面にテープ幅方向に沿って貼着した後、上記折り曲げ線CからAにおける折り曲げ長さLよりも数ミリ程度短い距離だけ後方の位置でテープ基材側から粘着テープを切断し、巻取ること特徴とする粘着テープ巻物の製造方法にある。

以下、本発明を図面により詳細に説明する。

芯に巻取られるが、(図示していない)満巻近くなると第4図に示した口取紙貼着バー10が下方のS方向に回転移動し、該貼着バー10に保持された特定長さ及び形状の口取紙が粘着テープ2の粘着剤塗布面5に貼着される。

上記口取紙貼着バー10の詳細は、第5図の部分断面拡大図に示した。第5図において、粘着テープと同一幅の口取紙4はガイド板14に沿わせて供給され、貼着バー10に設けた真空孔13からの真空吸引力と押え片12により固定される。固定された口取紙はカッター8により、所定の長さ分だけ切断され、ついで押込み板11の矢印方向への移動により、折り曲げ角部15で折り曲げ線Cを中心に所定の角度に折り曲げられる。

折り曲げられた口取紙は、押え片12を離脱後、口取紙貼着バー10に真空吸引のみで付着したまま、貼着バー10と共に下方へ回転移動し、所定の位置で、粘着テープ2の粘着剤塗布面5に貼着される。

第1図は本発明の粘着テープ巻物の側面図、第2図はそのIIにおける部分拡大図、第3図は本発明の製造方法における口取紙の貼着状態を示す斜視図、第4図は本発明方法に用いる装置の一例を示す概略断面図、第5図は第4図のVにおける部分断面拡大図である。

本発明の粘着テープ巻物は第2図から判るように、粘着テープ端末3から口取紙がしただけはみ出している。Lは任意の長さが可能であるが、通常、指先の爪部が引掛る1～5ミリ程度の長さでよい。この口取紙のはみ出し部分により、テープ端末部の取出しが容易になる。

次に上記粘着テープ巻物の製造方法及び装置の一例について述べる。

第3図及び第4図において粘着テープ2は、テープ基材6と該基材に粘着剤を塗布した粘着剤塗布面5から構成され、矢印Sの方向に連続的に走行される。ここでいう粘着テープ2としては、細幅に裁断する以前の広幅のものを用いるのが能率的である。この粘着テープ2は、巻

本発明においては、上述した装置以外の粘着装置を採用してもよい。

上記の貼着された口取紙は、第3図の斜視図に示すように、走行方向Sの前方の折り曲げ部Bのみ粘着剤塗布面5に貼着する必要があり、後方の折り曲げ部Aは粘着剤塗布面と接触させない。口取紙を貼着した後、テープカッター9を作動させるが、粘着テープの切断位置は折り曲げ線Cから、上記Aにおける折り曲げ長さLよりも数ミリ程度短い距離だけ後方の位置Jで切断される。テープカッター9は、テープ基材6側から作動させる。切断後粘着テープは巻取られ、巻物として、そのまま製品あるいは、更に細幅の巻物に裁断される。それにより、後方折り曲げ部Aもテープの粘着剤塗布面に貼着される。

#### (発明の効果)

本発明により得られる粘着テープ巻物は、粘着テープ端末部の取出し作業が容易になるという利点を有し、また本発明の方法は、上記巻物

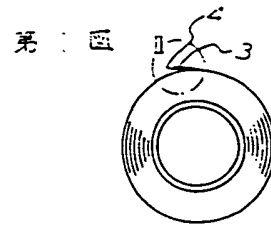
を粘着テープの製造工程で効率的に得ることができるという利点を有するものである。

#### 4 図面の簡単な説明

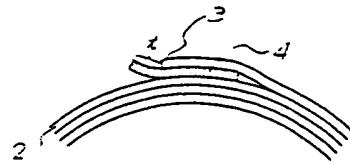
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A ……後方折り曲げ部  
B ……前方折り曲げ部  
C ……折り曲げ線  
ℓ ……Aにおける折り曲げ長さ

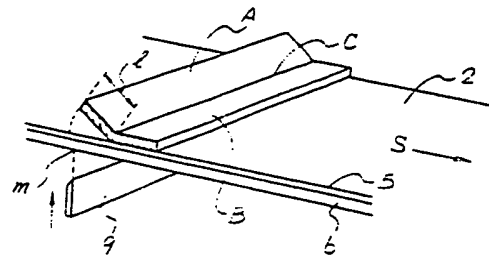
特許出願人 三菱樹脂株式会社  
代理人 弁理士 近藤久美



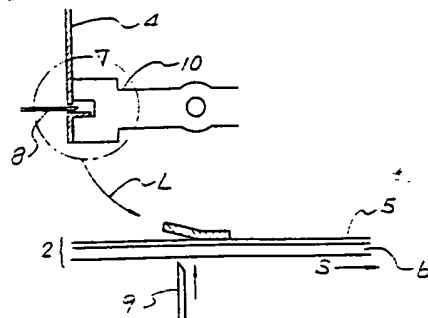
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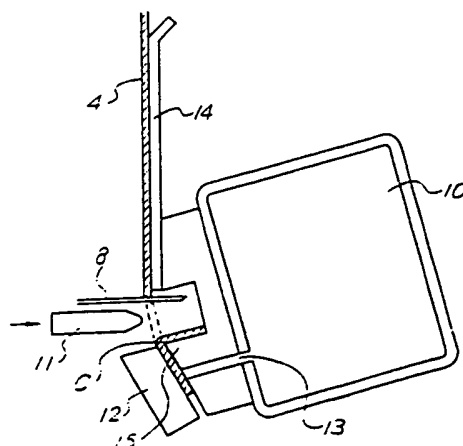
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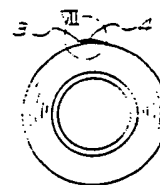
第4図



第5図



第6図



第7図

